REMARKS

Claims 1-26 are pending. Claims 1-3, 5-6, 8-11, 13, 15-16, and 18 are rejected under 35 U.S.C. § 102(b). Claims 1 and 9 are rejected under 35 U.S.C. § 102(e). Claims 4, 7, 12, 14, 17, and 19-26 are rejected under 35 U.S.C. § 103(a).

Independent claims 1 and 9 and depending claims 2-3, 5-6, 8, and 10-11 are rejected as being anticipated by Gillis et al. (U.S. Pat. No. 5,323,447) under 35 U.S.C. § 102(b). Claims 1-8 recite "A method of controlling frequency hopping wireless communications between first and second frequency hopping wireless communication devices, comprising: *the first device determining that a first frequency* of a frequency hopping pattern associated with transmissions by the second device *is better than a second frequency* of the frequency hopping pattern for transmission of a selected communication from the second device to the first device via a wireless communication link, wherein *the second frequency is specified by the frequency hopping pattern* for the selected communication and *the first frequency is specified by the frequency hopping pattern* for *a communication from the second device to the first device that most closely precedes the selected communication*; responsive to said determining step, *the first device instructing the second device via the wireless communication link to deviate from the frequency hopping pattern and use the first frequency for transmission of the selected communication* instead of the second frequency; and responsive to said instructing step, *the second device transmitting the selected communication on the first frequency* via the wireless communication link." (emphasis added).

The invention of claim 1 is directed to a method controlling frequency hopping wireless communications between first and second devices. Referring to Figure 1 (page 8, line 13 through page 9, line 9) of the instant specification for example, a first device (MASTER) determines that a first frequency f_8 transmitted by a second device (SLAVE 1) is better than a second frequency f_{14}. Both frequencies f_8 and f_{14} are specified by the frequency hopping pattern f_1-f_{24}. The second device (SLAVE 1) transmitted a most recent communication on the first frequency f_8. (After MASTER transmission on f_7). The first device (MASTER) transmits a hopping extension for slave bit

(HESB=1), thereby instructing the second device (SLAVE 1) to deviate from the frequency hopping pattern (f_{14}) and use the first frequency f_8. In response, the second device (SLAVE 1) transmits on the first frequency f_8. (After MASTER transmission on f_{13}).

By way of comparison, Gillis et al. discloses generation of a first group of 52 data values corresponding to 52 random channels (col. 4, lines 9-14) and a second set of 10 data values corresponding to 10 random channels. (col. 4, lines 21-24). The second set of data values are retained by the base station for use as needed. (col. 4, lines 57-59). The first and second sets of data values, therefore, are not part of a frequency hopping pattern as required by claims 1-8. Moreover, when the base unit 10 determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Thus, Gillis et al. fail to disclose "determining that a first frequency of a frequency hopping pattern associated with transmissions by the second device is better than a second frequency of the frequency hopping pattern." Furthermore, Gillis et al. fail to disclose "the first frequency is specified by the frequency hopping pattern for a communication from the second device to the first device that most closely precedes the selected communication" as required by claims 1-8. For example, if the second frequency of claim 1 is from the first set of Gillis et al., then the first frequency must also be from the first set and used for a transmission that most closely precedes the selected communication. Of course, Gillis et al. do not disclose anything remotely similar to this. Gillis et al. disclose selecting a completely different frequency from a second set of frequencies to substitute for the inadequate frequency of the first set. Thus, applicant respectfully submits that claim 1 and depending claims 2-3, 5-6, and 8 are patentable under 35 U.S.C. § 102(b) in view of Gillis et al.

Claims 9-12 recite "A method of controlling frequency hopping wireless communications between first and second frequency hopping wireless communication devices, comprising: *the first device determining that a first frequency* of a frequency hopping pattern associated with transmissions by the first device *is better than a second frequency* of the frequency hopping pattern for transmission of a selected communication from the first device to the second device via a

wireless communication link, wherein *the second frequency is specified by the frequency hopping pattern* for the selected communication and *the first frequency is specified by the frequency hopping pattern* for *a communication from the first device to the second device that most closely precedes the selected communication*; responsive to said determining step, *the first device using said most closely preceding communication and the first frequency to inform the second device via the wireless communication link that the first device will deviate from its frequency hopping pattern and use the first frequency for transmission of the selected communication* instead of the second frequency; and responsive to said informing step, *the second device receiving the selected communication via the wireless communication link on the first frequency.*"

Referring to Figure 8 (page 17, lines 1-12) of the instant specification for example, a first device (MASTER) determines that a first frequency f_7 is better than a second frequency f_{13}. Both frequencies f_7 and f_{13} are specified by the frequency hopping pattern f_1-f_{24}. The first device (MASTER) transmitted a most recent communication on the first frequency f_7. (Before SLAVE 1 transmission on f_8). The first device (MASTER) transmits a hopping extension for master bit (HEMB=1) on frequency f_7, thereby informing the second device (SLAVE 1) that it will deviate from the frequency hopping pattern (f_{13}) and use the first frequency f_7. In response, the second device (SLAVE 1) receives on the first frequency f_7. (Before SLAVE 1 transmission on f_{14}).

As previously explained, the disclosure of Gillis et al. is very different. Gillis et al. fail to disclose first and second frequencies that are part of the same frequency hopping pattern as required by claims 9-12. Moreover, when the base unit 10 determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Thus, Gillis et al. fail to disclose "determining that a first frequency of a frequency hopping pattern associated with transmissions by the first device is better than a second frequency of the frequency hopping pattern." Furthermore, Gillis et al. fail to disclose "the first frequency is specified by the frequency hopping pattern for a communication from the first device to the second device that most closely precedes the selected communication" as required by claims 9-12. For example, if the second frequency of claims 9-12 is from the first set of Gillis et al., then the first

frequency must also be from the first set and used for a transmission that most closely precedes the selected communication. This is not disclosed. Gillis et al. disclose selecting a completely different frequency from a second set of frequencies to substitute for the inadequate frequency of the first set. Thus, applicant respectfully submits that claims 9 and depending claims 10-11 are patentable under 35 U.S.C. § 102(b) in view of Gillis et al.

Independent claims 13 and 16 and depending claims 15 and 18 are rejected as being anticipated by Gillis et al. under 35 U.S.C. § 102(b). Claims 13-15 recite "a determiner for *determining whether a first frequency of a frequency hopping pattern associated with transmissions by a further frequency hopping wireless communication apparatus is better than a second frequency of the frequency hopping pattern* for receiving a selected communication transmitted by the further apparatus, wherein *the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the further apparatus to said apparatus that most closely precedes the selected communication.*" Claims 16-18 recite "a wireless communication interface for receiving from a further frequency hopping wireless communication apparatus via a wireless communication link *an indication that a first frequency of a frequency hopping pattern associated with transmissions by said apparatus is better than a second frequency of the frequency hopping pattern* for transmission of a selected communication from said apparatus to the further apparatus via the wireless communication link, wherein *the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from said apparatus to the further apparatus that most closely precedes the selected communication.*" (emphasis added).

Gillis et al. fail to disclose first and second frequencies that are part of the same frequency hopping pattern as required by claims 13-18. As previously explained, when the base unit 10 (Figure 1) determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Thus, Gillis et al. fail to

disclose determining or indicating that a first frequency is better than a second frequency. Gillis et al. disclose replacing an inadequate frequency from a first set with another frequency of a second set. The frequency of the second set may be even worst than the frequency from the first set. Moreover, since the inadequate frequency is from a first set and the replacement frequency is from a second set, they cannot both be from the same frequency hopping pattern as required by claims 13-18. Furthermore, Gillis et al. fail to disclose "the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication . . . that most closely precedes the selected communication" as required by claims 12-18. Gillis et al., fail to disclose such an arrangement. Gillis et al. simply replace an inadequate frequency from a first set with a frequency from a second set. There is no disclosure that the frequency from the second set was ever used previously and certainly not for the a communication that most closely precedes the selected communication. Thus, applicant respectfully submits that claims 12, 15, 16, and 18 are patentable under 35 U.S.C. § 102(b) in view of Gillis et al.

Independent claims 1 and 9 are rejected as being anticipated by Souissi et al. (U.S. Pat. No. 6,327,300) under 35 U.S.C. § 102(e). Souissi et al. disclose dynamic allocation of channels. These channels are identified by the slave (col. 2, lines 48-51) or by the master (col. 3, lines 20-24). Souissi et al. fail to disclose a frequency hopping pattern as required by claims 1-12. Once frequencies are dynamically allocated (Figure 3, channels 7-9) (col. 5, lines 19-44) by the master, there is no comparison of one frequency to another to determine a best frequency. If slave to master transmission fails, for example, the master negatively acknowledges a data packet. The slave resends the packet. If there is another transmission failure, the master informs the slave it will scan for alternative channels. (col. 5, lines 33-39). These new alternative channels (Figure 3, channels 2-6), however, are never compared to the previous channels (channels 7-9). Thus, Souissi et al. fail to disclose "determining that a first frequency of a frequency hopping pattern . . . is better than a second frequency of the frequency hopping pattern for transmission of a selected communication" as required by claims 1-12. Furthermore, Souissi et al. fail to disclose "the first frequency is specified by the frequency hopping pattern for a communication . . . that most closely precedes the

selected communication" as required by claims 1-12. For example, if the second frequency of claims 1-12 is taken as one of allocated channels 7-9 of Souissi et al., then the first frequency must be one of channels 7-9 that was used for a transmission that most closely precedes the selected communication. This is not disclosed by Souissi et al. Souissi et al. disclose selecting a completely different set of frequencies (channels 2-6) to substitute for the inadequate frequency of the first set (channels 7-9). Moreover, there is no assurance channels 2-6 will be any better than previous channels 7-9, since they are not compared prior to substitution. Thus, applicant respectfully submits that claims 1 and 9 are patentable under 35 U.S.C. § 102(e) in view of Souissi et al.

Independent claims 19 and 23 and depending claims 20-22 and 24-26 are rejected as being unpatentable over by Gillis et al. in view of Souissi et al. under 35 U.S.C. § 103(a). Examiner states Gillis et al. discloses all claimed subject matter except using the first frequency or receiving indication on the first frequency. For all the foregoing reasons, applicant respectfully disagrees.

Claims 19-22 recite "a determiner for *determining whether a first frequency of a frequency hopping pattern associated with transmissions . . . is better than a second frequency of the frequency hopping pattern . . .* wherein *the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication . . . that most closely precedes the selected communication.*" Claims 23-26 recite "a wireless communication interface for receiving from a further frequency hopping wireless communication apparatus via a wireless communication link a first communication on *a first frequency specified for said first communication by a frequency hopping pattern* associated with transmissions by the further apparatus, said first communication including *an indication that said first frequency is better than a second frequency of the frequency hopping pattern* for transmitting via the wireless communication link *a second communication from the further apparatus to said apparatus that most closely follows said first*

communication, wherein the second frequency is specified by the frequency hopping pattern for the second communication." (emphasis added).

Gillis et al. fail to teach or suggest first and second frequencies that are part of the same frequency hopping pattern as required by claims 19-26. As previously explained, when the base unit 10 (Figure 1) determines that a frequency of the first set has a high incidence of interference, it replaces that frequency with a frequency from the second set. (col. 9, lines 12-19). Thus, Gillis et al. fail to disclose determining or indicating that a first frequency is better than a second frequency. Gillis et al. disclose replacing an inadequate frequency from a first set with another frequency of a second set. The frequency of the second set may be even worst than the frequency from the first set. Moreover, since the inadequate frequency is from a first set and the replacement frequency is from a second set, they cannot both be from the same frequency hopping pattern as required by claims 19-26. Furthermore, Gillis et al. fail to disclose the first and second frequencies are designated by the frequency hopping pattern for a communication that most closely precedes the selected communication (claims 19-22) or a second communication that most closely follows said first communication (claims 23-26). A combination of Gillis et al. and Souissi et al., therefore, fails to disclose all claimed subject matter. Thus, applicant respectfully submits that claims 19-26 are patentable over by Gillis et al. in view of Souissi et al. under 35 U.S.C. § 103(a).

Applicant acknowledges the rejections of claims 4, 7, 12, 14, and 17 under 35 U.S.C. § 103(a), but considers them moot in view of the present amendment as discussed.

In view of the foregoing, applicants respectfully request reconsideration and allowance of claims 1-26. If the Examiner finds any issue that is unresolved, please call applicant's attorney by dialing the telephone number printed below.

Respectfully submitted,

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